

DRAFT - IWM Benefit Definitions

December 12, 2011

Purpose: This template presents definitions for the (highly generalized) benefit types shown in the first column with adequate specificity and context to serve three purposes:

- a. As a screening tool for determining which types of IWM activities are within the scope of the Update 2013 Finance Plan;
- b. As a basis for forming resource management objectives (see *Resource-Dependant Values* column) to guide IWM activity selection;
- c. As a basis for developing reporting metrics for future comparative analysis (Component 5 of Storyboard) which can later be derived from the *Examples of Specific IWM Benefits* column.
Examples of potential reporting metrics include acres of restored habitat, acre-feet of new water supply, salinity concentration, consequences and probability of flood risks, etc.

Approach and Context:

These definitions are based on a combination of work conducted with the Finance Caucus Definitions Sub-committee and existing definitions developed for other purposes, but adapted for use in the Finance Plan. **They are not final.** A review process is in place based on any deficiencies observed in any of the following:

- Clarity: definition is brief, succinct and devoid of jargon and terms requiring definition.
- Shelf life: definition specificity is not temporal (time) dependent or goal specific.
- Consistent: definition is consistent with majority of regulatory language and the law; where there is inconsistency; strive for the broad common ground definition.
- Intended Use: definition meets the intended use of the Finance Plan for Integrated Water Management
- Rational basis: definition can pass a "straight face test" of whether or not something is legitimate or serious based on whether or not a given statement can be made sincerely.
- Data Nexus: definition is supported by data; definition is qualified with degree of confidence or potential "unknowns" that may change meaning or nexus reliability.

Column Descriptions:

Proposed Benefit Types were developed by the Finance Caucus and represent the scope and outcomes of the Finance Plan as described in Component 1 of the Storyboard.

Resource-Dependant Values are an expression of the fundamental matters ***that stakeholders advocate for, rely upon or otherwise care about.*** The values do not include activities (policies or actions), rather they represent the desired human, non-human and inanimate beneficiary of an activity (e.g. fishery habitat, water-dependant economic activity, etc). These values are presented without regard for targeted or desired future condition for said value. The targeted/desired future condition for the values will be discussed in the context of Resource Management Objectives as part of the storyboard Component 2 discussions.

Examples of Specific Benefits not only provide context for the definitions, but they also allow stakeholders to register more specific matters of importance as a basis for developing Resource Management Objectives and/or Reporting metrics as part of Component 2 (Identifying IWM Activities) and Component 8 (Describing trade-offs of various potential activities) of the Storyboard.

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Proposed IWM Benefit Type <i>(From Storyboard Component 1)</i>	Resource-Dependant Values <i>(This represents matters that stakeholders advocate for, rely upon or otherwise care about – do not involve activities such as RMSs)</i>	Examples of Specific IWM Benefits	Definition	Reference/Source <i>(For Previously Defined Benefits)</i>
Environmental	<ul style="list-style-type: none"> • Natural heritage • Self-sustaining ecosystems • Biodiversity • Public Health • Adequate matching of water quality with water uses • Agricultural, Commercial, Industrial water quality requirements 	<ul style="list-style-type: none"> • Recover sensitive species • Control invasive species • Achieve environmental water quality objectives • Improve or maintain ambient water quality – do no harm 	Preservation or restoration of the fish, wildlife, natural processes/functions and other aquatic resources for the continued viability of natural heritage, self-sustaining ecosystems and/or biodiversity. (e.g. recovery of sensitive species, control of invasive species)	Composite of Finance Caucus input and Update 2009 definitions

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Water Quality	<ul style="list-style-type: none"> Public health Sustain water-dependant habitat 	<ul style="list-style-type: none"> Control water-borne disease vectors Protection of DACs 	Chemical, physical, and biological characteristics of water, usually in regard to its suitability for a particular purpose or use for the enhancement or preservation of public and environmental health for all demographics	Composite of Finance Caucus input and Update 2009 definitions

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Water Supply and Supply Reliability	<ul style="list-style-type: none"> • Diverse portfolio of economic activity for each region • Infrastructure levels of service • Cost of living • System functions for urban, ag, industrial and environmental water supply • Maintain Societal stability • Ag productivity and land preservation • Food security • Economic stability • Ability to plan for sustained economic activities (personally, business level, & infrastructure investments) • Ecosystem health 	<ul style="list-style-type: none"> • Water supplies (of sufficient quality and certainty) to support new/existing housing, agricultural and commercial activities • Diversified supply options (regional resiliency, statewide) 	Occurrence of water supplies of sufficient quality and certainty to enhance or sustain a diverse portfolio of economic activity and ecosystem health as well as achieve water costs and quality of life that can compete with other regions/states/countries.	Composite of Finance Caucus input and Update 2009 definitions

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Flood Damage Reduction	<ul style="list-style-type: none"> Public Safety Economic prosperity Environmental values an services Biodiversity and sustainability 	<ul style="list-style-type: none"> Reduction in potential loss of life Reduction in direct property damages due to floodwater Reduction in loss of regional economic activities and utility services Reduction in disaster recovery costs Increase beneficial effects of flood for critical habitats 	Reducing flood risk (probability of flooding x consequence of flooding) through structural and non-structural measures. This includes pre-flood hazard mitigation, emergency response activities, and post-event flood repairs (including environmental infrastructure repairs)	Derived from Finance Caucus input

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Fuel Load Management	<ul style="list-style-type: none"> • Ecosystem health in forest and rangelands • Water quality • Water supply 	Fuel treatments can modify fire behavior and reduces the risk of high severity wildfire. Reduction in high severity fire lessens the impact to water quality and potential impacts to downstream water supply.	Fuel reduction involving the modification of vegetation in order to reduce potential fire threat, reduce the risk of high severity wildfires thereby; (1) preserving water quality and natural water treatment processes within watersheds; (2) avoidance of downstream sedimentation impacts on water supply; and/or (3) improve wildlife habitat capability, timber growth, or forage production.	Derived from Finance Caucus input

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Energy	<ul style="list-style-type: none"> • Functionality of water sources and treatment facilities • Beneficial use of inherent water energy • Water used for processes • Who expends energy on water 	<ul style="list-style-type: none"> • Reduction of energy used to move and treat water • Reduce embedded energy in used water • Decrease GHG emissions in using water • Avoid overtreatment of water– matching quality of water with the use...using high quality water to high quality uses and use lower quality water as needed 	Reductions in use or increases in production/recovery of energy associated with managed and unmanaged water use, storage, treatment, distribution and/or reuse.	Derived from Finance Caucus input

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Drought Preparedness	<ul style="list-style-type: none"> • Diverse portfolio of economic activity for each region • Infrastructure levels of service • Cost of living • System functions for urban, ag, industrial and environmental water supply • Maintain Societal stability • Ag productivity and land preservation • Food security • Economic stability • Ability to plan for sustained economic activities (personally, business level, & infrastructure investments) • Ecosystem health 	<ul style="list-style-type: none"> • Water supplies (or sufficient quality and certainty) to support new/existing housing, agricultural and commercial activities • Diversified supply options (regional resiliency, statewide) 	The magnitude and probability of economic, social or environmental consequences that would occur as a result of a sustained drought.	Glossary, Water Plan Update 2005

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Reduce Climate Change Impacts	<ul style="list-style-type: none"> • Diverse portfolio of adaptation and mitigation strategies specific to each region • Reinforces need for integrated regional water mgmt strategies and objectives • Sustainability • Water Supply Reliability • Ecosystem Benefits 	<ul style="list-style-type: none"> • Water Conservation (adaptation to changing hydrology) • Flood Risk Reduction thru adaptation to higher sea level and peak flood flows (adaptation) • Reduce embedded energy in used water (mitigation) • Decrease GHG emissions in using water (mitigation) 	Development and implementation of strategies that improve resiliency, reduce risk, and increase sustainability for water and flood management systems and the ecosystems upon which they depend.	DWR Climate Change White Paper

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Operational Flexibility and Efficiency	<ul style="list-style-type: none"> Optimizing the use of existing infrastructure 	<ul style="list-style-type: none"> Respond to changing demands on existing systems Mitigate climate change 	Optimizing existing legal, operational and management procedures for (or physical modifications to) existing water management faculties to improve the efficiency of existing water uses (e.g., irrigation) or increase the emphasis of one use over another in order to increase water related benefits.	Composite of Finance Caucus input and Update 2009 definitions

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Groundwater Overdraft Reduction	<ul style="list-style-type: none"> • Sustainability of GW supplies and aquifers at the basin, regional and statewide levels • Water quality 	<ul style="list-style-type: none"> • Supply reliability • Recue or avoid subsidence 	Avoidance of the condition of a groundwater basin in which the amount of water withdrawn by pumping exceeds the amount of water that recharges the basin over a period of years during which water supply conditions approximate average conditions.	Glossary for Bulletin 118,Groundwater overdraft definition (varied for Finance Plan)

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Affordability	<ul style="list-style-type: none"> Access to drinking water for disadvantaged communities Cost of living 	<ul style="list-style-type: none"> Water supplies (of sufficient quality and certainty) and affordability to support new/existing housing, agricultural and commercial activities Enhanced access to disadvantaged communities 	Occurrence of water supplies of sufficient quality, certainty and cost to enhance or serve disadvantaged communities, sustain a diverse portfolio of economic activity as well as achieve water costs and quality of life that can compete with other regions/states/countries.	Derived from Finance Caucus input

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Water Dependent Recreational Opportunity	<ul style="list-style-type: none"> • Exercise • Relaxation and refreshment of mind and body • Economic development • Rivers, beaches, lakes, marshlands • Socializing with family and friends • Human/nature connections 	<ul style="list-style-type: none"> • Fishing • kayaking • Swimming • Boating • Camping • Hunting 	Opportunities for water-dependent recreation for California’s residents, communities and visitors now and into the future (e.g. skiing, fishing, kayaking, etc)	Variation of Update 2009 Recreational Opportunities Resource Management Strategies

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Food Security	<ul style="list-style-type: none"> • Domestic food and fiber production • Importation of food and fiber into California and/or United States • Capability to produce food and fiber within California 	<ul style="list-style-type: none"> • Sustain the activities, culture/expertise and overall capabilities to produce food and fiber in California in terms of water supply reliability, land use and other natural resource policies. 	<p>Adequate reliability, affordability, and supply of water, land and other natural resources to reliability to support domestic production of food, fiber, livestock, and other farm products to meet current and forecasted consumer demands.</p> <p><i>NOTE: An important clarification is whether this concept applies to consumption within the state, nationally, and/or globally.</i></p>	Composite of Finance Caucus input as well as Food and Ag Code